23/2/24

Program 9: WAP that creates a user interface to perform integer divisions. The user enters 2 numbers in the text fields, Num1 & Num2. The division of Num1 & Num2 is displayed in the Result field when the divide button is clicked. If Num1 & Num2 were not an integers, the program would throw a NumberFormatException. If Num2 were a zero, the program would throw an Arithmetic Exception. Display the exception in a message dialog box.

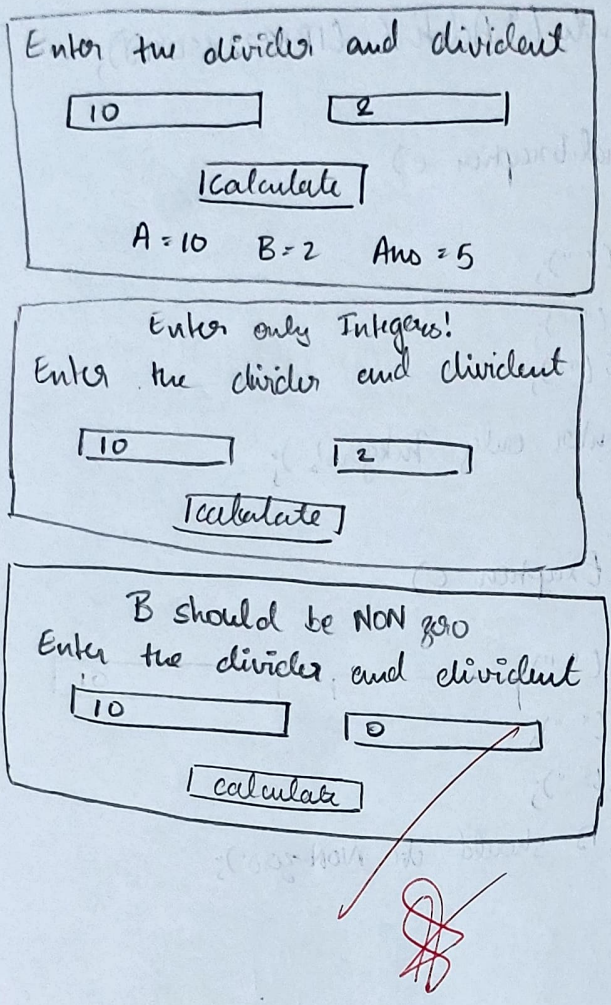
```
import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

class SwingDemo
{
  SwingDemo()
  {
    JFrame jfrm = new JFrame("Divider App");
    // A class in java which impact the JFrame
    jfrm.setSize(265, 150);   // width, height
    jfrm.setLayout(new FlowLayout());
    // arranges components in left to right flow.
    jfrm.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
    //sets the close operation
    JLabel jlab = new JLabel("Enter the divider and dividend : ");
    // component that displays a short text string, an img or both
    JTextField ajtf = new JTextField(8);
    JTextField bjtf = new JTextField(8);
    // allows editing of single line of text
    // '8' specifies the width of the text field in terms of column
    JButton button = new JButton("Calculate");
    // a push button that performs a specific task
    JLabel err = new JLabel(); // initially empty but later used to display error
    JLabel alab = new JLabel(); // to display component or
```

```
JLabel blab = new JLabel(); // to display b
JLabel anslab = new JLabel(); // to display ans

// add in order in the frame
jfrm.add(err);
jfrm.add(jlab);
jfrm.add(ajtf);
jfrm.add(bjtf);
jfrm.add(button);
jfrm.add(alab);
jfrm.add(blab);
jfrm.add(anslab);


ActionListener I = new ActionListener()
{
    public void actionPerformed(ActionEvent evt)
    {
        System.out.println("Action event from text field");
    }
};

/* ActionListener : an interface in Swing framework that
listens for & handles action events.
actionPerformed: part of ActionListener interface which handles
action events like button clicks or text field entries. */

ajtf.addActionListener(I);
bjtf.addActionListener(I);

button.addActionListener(new ActionListener()
{
    public void actionPerformed(ActionEvent evt)
    {
        if(err.getText() != NULL)
            err.setText("");
        try
        {
            int a = Integer.parseInt(ajtf.getText());
            int b = Integer.parseInt(bjtf.getText());
            int ans = a/b;
            alab.setText("\nA = " +a);
```

```
        blab.setText("\nB = " + b);
        anslab.setText("\nAns = " + ans);
        System.out.println("Aditi.C (1BM22CS041)");
    }
    catch (NumberFormatException e)
    {
        alab.setText(" ");
        blab.setText(" ");
        anslab.setText(" ");
        err.setText("Enter only Integers!.");
    }
    catch (ArithmeticException e)
    {
        alab.setText(" ");
        blab.setText(" ");
        anslab.setText(" ");
        err.setText("B should be NON ZERO");
    }
  }
});
//display frame
jfm.setVisible(true);
}
public static void main(String args[])
{
// creating from an event dispatching thread
SwingUtilities.invokeLater(new Runnable()
{
    public void run()
    {
        new SwingDemo();
    }
});
}
}
```

23/12

Output:-



JFrame functions:-

JFrame : A class in java which impacts JFrame.

JLabel : component that displays a short text, or an image or both

setSize : set size of frame (int width, int height)

setDefaultCloseOperation: sets the close operation

JTextField(8): allows editing of single line of text
'8' is the width of text in terms of column

JButton : a push button that performs a specified task

add( ) : add the components to the frame

ActionListener: an interface in Swing framework that listens for and handles action event

actionPerformed: part of ActionListener interface which handles action events like button clicks or text field entries

setText(): sets the text content of the Swing component to the specified string

getText(): retrieves the text content from the Swing component

setVisible(): sets the visibility of the JFrame

SwingUtilities.invokeLater: used to execute code that updates Swing components

Divider app

Enter the divider and divident:

10

2

Calculate

A= 10 B= 2

Ans= 5

Aditi C [1BM22CS014]

Divider app

B should be NON zero!

Enter the divider and divident:

10

0

Calculate

Aditi C [1BM22CS014]

Divider app

Enter only Integers!

Enter the divider and divident:

10

a

Calculate

Aditi C [1BM22CS014]